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Factors Affecting the Performance of MSEs with the Mediating Role of Institutional support Evidenced from Samara-Logia city Administration – Ethiopia

Abdu Kamil[1], Senapathy Marisennayya[2]
[1] Department of Management, Samara University, Russia.
[2] Department of Rural Development and Agricultural Extension at the College of Agriculture, Wolaita Sodo University, Ethiopia.

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ABSTRACT:
Purpose: *The purpose of this study is to examine the factors that influence the performance of micro and small enterprises (MSEs) in Samara-Logia city administration, Afar Region. Unlike previous research that mainly focused on enterprise suitability, this study seeks to fill a gap in the literature by highlighting the mediating role of institutional support in shaping enterprise outcomes.*
Method: *To achieve this objective, the study employed an explanatory research design. Data were collected through a five-point Likert scale questionnaire administered to 212 enterprises, selected using stratified and simple random sampling techniques. The analysis was conducted using structural equation modeling with Smart PLS 4.0, ensuring the reliability and validity of the results while confirming the absence of collinearity issues.*
Findings: *The findings reveal that managerial skills, technology, infrastructure, finance, and social factors all exert a positive and significant influence on the performance of MSEs. Importantly, these factors affect performance both directly and indirectly through the mediating role of institutional support. The model explains 69.9% of the variance in MSE performance, underscoring the robustness of the results.*
Implication: *Based on these findings, the study recommends that policymakers, support institutions, and MSE owners should prioritize strengthening managerial skills, expanding access to finance, improving infrastructure, enhancing technological adoption, and leveraging social networks. At the same time, strong institutional support systems must be ensured, as these combined efforts are critical to improving the performance and sustainability of MSEs.*
Originality: *The originality of this study lies in its focus on institutional support as a mediating factor, which has been largely overlooked in prior research. By integrating this dimension into the analysis, the study provides a more comprehensive understanding of how various success factors interact to shape MSE performance, thereby contributing new insights to the existing body of knowledge.*

Keywords: *Performance of MSEs, Managerial skills, access to finance, political-legal, technological, infrastructural and marketing factors.*

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Correspondence:
* Abdu Kamil and Email: abkamilyahoo4569@gmail.com

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1. INTRODUCTION

Nowadays, micro and small enterprises (MSEs) are increasingly essential for long-term progress and prosperity, serving as the backbone of many economies (Tadesse, 2014). Micro and Small Enterprises (MSEs) are crucial for sustainable socio-economic development, as they create long-lasting jobs and income opportunities (Zambad & Londhe, 2014).

Around the world, micro and small enterprises, or MSEs, are recognised for their significant contributions to job creation and economic growth (Osotimehin et al., 2012; Matthew et al., 2020). In both developed and developing countries, MSEs are now among the most crucial instruments for addressing social and economic problems and accomplishing development objectives (Bai et al., 2021; Miah et al., 2015; OECD, 2017). Over 90% of total income in most nations is comprised by MSEs

(Razak et al., 2018; Tambunan, 2020). The small and micro enterprise (SME) sector is widely recognised as a vital driver of employment generation, tackling unemployment, and fostering overall social development. This is particularly significant as a substantial portion of the global workforce, ranging from 48 to 51% in Latin America, 65% in Asia, and 72% in Sub-Saharan African countries, is engaged in this sector (Awartani & Millis, 2018; ILO, 2015).

In African nations, the substantial role of Micro and Small Enterprises (MSEs) in employment and GDP contribution has been frequently underestimated (Li & Rama, 2015). However, these enterprises significantly drive economic growth through operational activities, notably exemplified by job creation in Nigeria (Matthew et al., 2020). Collectively, MSEs make significant contributions to national economies, accounting for over 50% of African GDP and approximately 60% of employment (White, 2018; Muiruri, 2017). Despite generating about 80% of new jobs, African SMEs also bear the majority of job losses (ILO, 2019). In South Africa, entrepreneurship and new venture creation prioritise employment opportunities for MSE employees, reflecting broader social goals beyond economic imperatives in poverty alleviation (Rambe & Mosweunyane, 2017).

In five countries across Sub-Saharan Africa, including Botswana, Kenya, Malawi, Swaziland, and Zimbabwe, the employment of Micro and Small Enterprises (MSEs) has absorbed more than 49% of the labour force increase (Diao et al., 2018). Similarly, approximately 80% of Tanzania's employment growth is attributed to MSEs (Diao et al., 2018). Notably, in Ethiopia, MSEs constitute a remarkable 97% of employment within the manufacturing sector (Li & Rama, 2015).

In Ethiopia, the Micro and Small Enterprises (MSEs) sector holds significant importance within the agricultural industry, which constitutes the largest source of employment in the country. Recognised as a pivotal driver of economic activity in developing nations (IFC, 2013), MSEs play a crucial role in generating jobs and income, particularly among the urban population (Wasihun & Paul, 2017). They exhibit notable employment growth rates (Geremewe, 2018) and make substantial contributions to industrial production and exports (Abebe & Gebremariam, 2021). Overall, MSEs play a crucial role in fostering economic growth and facilitating the transition from agriculture to industrialisation (Ermias et al., 2017). According to Fufa (2015), Ethiopia is home to 974,676 micro and 31,863 small businesses, comprising 99.40% and 0.46% of industrial establishments, respectively.

Merely establishing a strategy for Micro and Small Enterprises (MSEs) is insufficient to address the challenges they face and promote sector development (Hunegnaw, 2019). The sustainability of these enterprises hinges on effectively managing the balance between long-term and short-term investment (Dinku, 2013). According to a national survey conducted by the Central Statistical Agency, over 1.3 million individuals are employed in MSEs (CSA, 2003, 2007). However, a considerable number of MSEs struggle to expand and remain in a state of survival, unable to create employment opportunities (Gebremeskel, 2018). Approximately 69% of surveyed MSEs are categorised as survival-oriented (Tefera et al., 2013). The rapid growth of small firms in Ethiopia is offset by a significant rate of business failures (Page & Söderbom, 2015), with the risk of failure being particularly pronounced within the initial 2-4 years of operation (Woldehanna et al., 2018). The key challenges include financial constraints, a shortage of skilled employees (Tarfasa et al., 2016; Endris & Kassegn, 2023), inadequate financial record-keeping practices (Effendy et al., 2023), marketing difficulties, and a lack of suitable workspaces (Ayalu et al., 2022). Furthermore, environmental influences affect business operations, encompassing social (Mendoza et al., 2023), economic (Situm, 2023), cultural, political, legal (Beshir, 2022; Ayinaddis, 2023), and technological factors (Teka, 2022; Mansur & Djaelani, 2023). Additionally, internal factors such as personal attitudes, training, and technical proficiency also significantly influence MSE performance (Assefa & Cheru, 2018; Ferejo et al., 2022).

The existing studies in this field have not been thoroughly explored, leaving significant gaps in contextual understanding, methodological approaches, and inconsistencies across research findings. Some studies have primarily focused on enterprise frequency rather than evaluating their performance, while others have neglected to consider crucial factors. Geographically, research has been mainly concentrated in Addis Ababa and other regional cities, with less attention given to other areas. To address these deficiencies and provide comprehensive insights, this study investigates the factors affecting the performance of micro and small enterprises, with a particular focus on the mediating role of institutional support in Samara-Logia city administration, Afar Region, Ethiopia.

Based on the introduction in its objectives, this study attempts to answer six research questions: 1) What is the effect of managerial skills on the performance of Micro and Small Enterprises in Samara-Logia city administration? 2) What is the effect of technological factors on the performance of Micro and Small Enterprises in the Samara-Logia city administration? 3) What is the effect of access to infrastructure on the performance of Micro and Small Enterprises in the Samara-Logia city

administration? 4) What is the effect of access to finance on the performance of Micro and Small Enterprises in Samara-Logia city administration? 5) What is the effect of social factors on the performance of Micro and Small Enterprises in Samara-Logia city administration? 6) What is the mediating role of institutional support on the relationship between key determinants and the performance of Micro and Small Enterprises in Samara-Logia city administration?

2. LITERATURE REVIEW

Although Micro and Small Enterprises (MSEs) have played a vital role in community development by bolstering community capital and harnessing local resources, they encounter numerous obstacles that hinder their entire operation and transformative impact (Matthew et al., 2020; Osotimehin et al., 2012). These challenges include limited access to finance, deficiencies in managerial skills, inadequate infrastructure, and insufficient resources or mechanisms, particularly in terms of technology (poor technology).

2.1. Managerial Skills and the Performance of MSEs

Micro and Small Enterprises, typically owned and managed by one person or a small group, heavily rely on their owners for management, often with limited external assistance. Several studies have highlighted the importance of management capabilities within the top management team as key factors in the growth of small businesses. According to Olawale and Garwe (2010), management capacities encompass a spectrum of knowledge, skills, and competencies that enhance the efficiency of small and medium-sized enterprises (SMEs). Similarly, Aylin et al. (2013) highlight the critical role of management skills in the growth of Micro and Small Enterprises (MSEs), emphasising that a lack of such skills acts as a barrier to growth and can contribute to business failure.

H1a: Managerial skills have a positive effect on the performance of MSEs
H1b: Managerial skills have a positive effect on institutional support

2.2. Technological Factors and the Performance of MSEs

Organisations leverage technological capabilities to optimise operational processes and activities, with the overarching goal of enhancing overall performance (Yakubu & Lily, 2019). The crux of the investigated technological transformation lies in MSEs' capacity to adopt innovative methodologies, thereby enhancing the efficiency of both human resources and machinery, and consequently leading to increased productivity (Stella, 2017). Additionally, entrepreneurs can utilise technology to establish secure environments conducive to safeguarding sensitive business or consumer data. Among the ten selected factors initially earmarked for examination, technological factors emerge as exhibiting a robust positive correlation (Cherkos et al., 2018). Several studies suggest that augmentations in Research and Development (R&D) expenditure and other technological initiatives are poised to bolster MSEs' profitability, thereby fostering increased employment opportunities within the nation (Yusuf et al., 2017). Notably, technical support and customer service are commonplace functions that companies frequently outsource (Vitez, 2019).

H2a: Technological factors have a positive effect on the performance of MSEs
H2b: Technological factors have a positive effect on institutional support

2.3. Access to Infrastructure and the Performance of MSEs

Infrastructure is crucial for economic growth, as evidenced by research indicating a strong link between access to infrastructure and increased productivity (Ombi et al., 2018; Enang & Bassey, 2017). In developing economies, the presence of infrastructure can significantly influence a company's financial outcomes, particularly in areas where infrastructure is underdeveloped or absent (Ndiaye et al., 2018). Despite this, there is an apparent disconnect in the literature regarding the association between infrastructure quality, such as reliable energy and water, accessible roads, and economic progress in many developing nations, especially those in Sub-Saharan Africa (Calderon et al., 2018).

The absence of robust infrastructure adversely affects the manufacturing sector, impeding Micro and Small Enterprises' (MSEs) competitiveness in the international arena (Obokoh & Goldman, 2016). Additionally, inadequate infrastructure, such as poor roads, unreliable water and electricity, and deficient telecommunications, poses barriers to the expansion of micro and small enterprises (Mambula, 2002). Nevertheless, research indicates that infrastructure access has a beneficial and noteworthy impact on MSE performance (Sefiani & Bown, 2013), corroborating the positive correlation

between infrastructure levels and MSE efficacy (Cámara & Tuesta, 2014; Obokoh & Goldman, 2016; Islam & Hossain, 2018).
H3a: Infrastructure has a positive effect on the performance of MSEs.
H3b: Infrastructure has a positive effect on institutional support

2.4. Access to Finance and the Performance of MSEs

In developing nations, financial institutions, particularly microfinance institutions, facilitate access to financial services for business enterprises, especially Micro and Small Enterprises (MSEs). Research suggests that micro-financial services generally have a positive impact on the operation and performance of MSEs (Ibor et al., 2017; Ates et al., 2013; Parvin et al., 2020). However, there are contrasting views, with some studies indicating a coincidental effect of microfinance on the performance of MSEs (Kijkasiwat & Phuensane, 2020). Additionally, access to finance is reported to have a neutral effect on the growth of MSE performance (Cámara & Tuesta, 2014). Moreover, the primary obstacle hindering MSEs from realising their full potential is the shortage of finance (Khan & Anuar, 2018). Insufficient finance negatively impacts the capability of small enterprises (Fowowe, 2017).
H4a: Access to finance has a positive effect on the performance of MSEs.
H4b: Access to finance has a positive effect on institutional support

2.5. Social factors and the performance of MSEs

Social factors play a pivotal role in either fostering or hindering the performance of MSEs (Animaw, 2019). Numerous studies have highlighted the significant contribution of social factors to enhancing the performance of entrepreneurs in small and micro enterprises (Khan et al., 2011; Mozumdar et al., 2020). Raheem (2013) conducted research aimed at identifying influential factors affecting the performance of MSEs, concluding that social factors constitute the most crucial variable, followed by economic and political factors. Certain societies embrace and encourage innovation and novelty, thereby endorsing entrepreneurial endeavours and rewarding successes such as profits. Conversely, some societies exhibit resistance to change, impeding the establishment and growth of entrepreneurship.

Additionally, certain societies harbour inherent aversions to profit-oriented activities (Animaw, 2019). Furthermore, Abebe (2014) demonstrates that social factors wield a significant and positive influence on the performance of MSEs. Evidence from the context of developing countries suggests that socio-cultural barriers have proven to be primary obstacles to the performance of small businesses (Amine & Staub, 2009).
H5a: Social factors have a positive effect on the performance of MSEs.
H5b: Social factors have a positive effect on institutional support

2.6. The mediation role of Institutional supports and the performance of MSEs

Zindiye et al. (2012) found that, despite financial struggles, aid from governments and institutions is playing a positive role in the advancement of small and medium-sized businesses. Luetkenhorst (2005) emphasises that such support is critical for the performance of these enterprises. Mulugeta (2011) outlines a range of challenges that impact these entities, including bureaucratic hurdles and weak institutional frameworks, as well as non-compliance with regulations and a shortage of practical training for business leaders. Furthermore, business owners often demonstrate a lack of reliability, inefficiency, and poor foresight. Small and medium-sized enterprises face specific challenges, including inadequate accounting methods and a limited culture of collaboration. Additionally, the way society views these companies and their products can sometimes cast them in a negative light.
H6: Institutional supports have a positive effect on the performance of MSEs
H7a: Institutional support mediates the effect of managerial skills on the performance of MSEs.
H7b: Institutional support mediates the effect of technological factors on the performance of MSEs.
H7c: Institutional support mediates the effect of infrastructure on the performance of MSEs.
H7d: Institutional support mediates the effect of access to finance on the performance of MSEs.
H7e: Institutional support mediates the effect of social factors on the performance of MSEs.

Based on a review of past studies on the factors influencing the performance of micro and small enterprises, the following conceptual frameworks are presented in Figure 1.

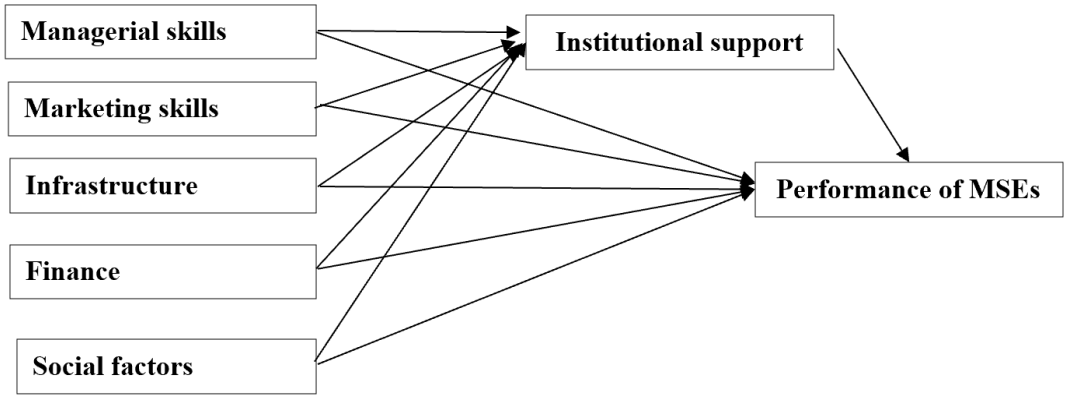

Figure 1. Conceptual Framework
Source: Constructed by the Researcher, 2025

3. METHOD

3.1. Research Design

This study employed a quantitative approach through an explanatory research design. An explanatory research approach was also employed in the study to identify the key variables and their impact on MSE performance.

3.2. Data Collection

To achieve the study's objectives, data were collected from primary sources through questionnaires. The primary sources of this study were enterprises which are selected as a sample. To collect the primary data, a questionnaire was used, primarily consisting of closed-ended questions measured on a 5-point Likert scale.

To uphold the validity of the findings, the study recognized the importance of a sufficiently large sample size. Therefore, to address this limitation, the study employed a method to determine a representative sample size of respondents using Yemane's (1967) formula, and 212 sample enterprises were selected for this purpose. The population is too heterogeneous, and the sample size selected here is considered representative of all enterprises. Therefore, the study employed a stratified sampling technique, grouping MSEs by construction, services, urban agriculture, and manufacturing.

Ethical consideration has been employed when distributing the questionnaires. Participation was voluntary after respondents received an explanation of the research's purpose, benefits, and their right to refuse or discontinue participation at any time. Respondents' identities were kept confidential, and the data collected was used solely for academic purposes without disclosing personal information. Questions were structured neutrally to avoid discomfort, and the study posed no physical or psychological risks. Therefore, this study met ethical standards for social research involving human respondents.

3.3. Data Analysis

The study employed inferential statistics, which enable the inference of relationships between two or more variables from the data through analysis, and how several independent variables might explain the variance in a dependent variable. The study used a structural equation model to show the direct and indirect effects of independent variables on the dependent variable.

In SEM, a model is tested for the quality of the measures (Measurement Model) through tests of validity and reliability, and then for the interrelationship between the variables (Structural Model), which focuses on assessing the interrelationship between variables via the examination of direct and indirect effects, as well as testing the mediation effect. A PLS-SEM (Partial Least Squares Structural Equation Modelling) data analysis technique was employed, and the process was facilitated using the SmartPLS 4 software.

4. RESULTS AND DISCUSSION

The survey results in Table 1 show that out of 212 respondents, the majority were male (75%) and within the age range of 30–39 years (61.8%), while only 3.06% were aged 50 and above. Regarding marital status, half of the respondents were married (50%), followed by singles (43.9%), with a few divorced (4.7%) and widowed (1.4%).

Table 1. Demographic Information

Items	Options	Frequency	Percent
Sex	Male	159	75.00
	Female	53	25.00
Age	20-29 years	44	21.00
	30-39 years	131	61.79
	40-49 years	30	14.15
	50 and above years	7	3.06
Marital status	Single	93	43.86
	Married	106	50.00
	Divorced	10	4.72
	Widowed	3	1.42
Service in business	0-3 years	61	29.6
	3-6 years	108	52.4
	6-9 years	33	16.0
	10 years and above	4	1.9
Level of education	Primary school	86	40.56
	High school	81	38.21
	Diploma/degree	45	21.23
Sectors	Construction	9	4.24
	Manufacturing	24	11.32
	Service	62	29.25
	Urban Agriculture	5	2.36
	Trade	112	52.83
	Total	**212**	**100.0**

Source: Survey result, 2025

In terms of business experience, most had operated for 3–6 years (52.4%), while a very few had operated for 10 years or more (1.9%). Educationally, a large proportion had primary (40.6%) or high school education (38.2%), with only 21.2% holding a diploma or degree. Sector-wise, trade dominated (52.8%), followed by services (29.3%), while construction (4.2%), manufacturing (11.3%), and urban agriculture (2.4%) were less represented.

4.1. Inferential Statistics

In SEM, there are two types of models: measurement and structural models. Measurement model assessment was performed to ensure the validity and reliability of the measures before developing and making a decision about the structural model (Ringle & Sarstedt, 2022). A structural model (path coefficient, coefficient of determination) was employed in a sequential two-step process (Hair et al., 2021b; Pueyo-Garrigues et al., 2023).

Measurement Model

Indicators Reliability (Indicator Loadings). According to Ringle & Sarstedt (2022), the first step in examining a measurement model is to determine the percentage of each indicator's variance that can be attributed to its corresponding construct. It is advised to use indicator loadings greater than 0.708. However, indicators with loadings between 0.40 and 0.708 should only be removed if doing so raises the indicator's convergent validity or internal consistency reliability above the recommended threshold value (Kamis et al., 2020).

Based on Figure 2, when deciding whether to remove an indication, one must also consider how doing so may impact content validity, which is the degree to which a measure accurately captures all aspects of a particular concept (Hair Jr. et al., 2017). Consequently, indications that have lower loadings are occasionally retained.

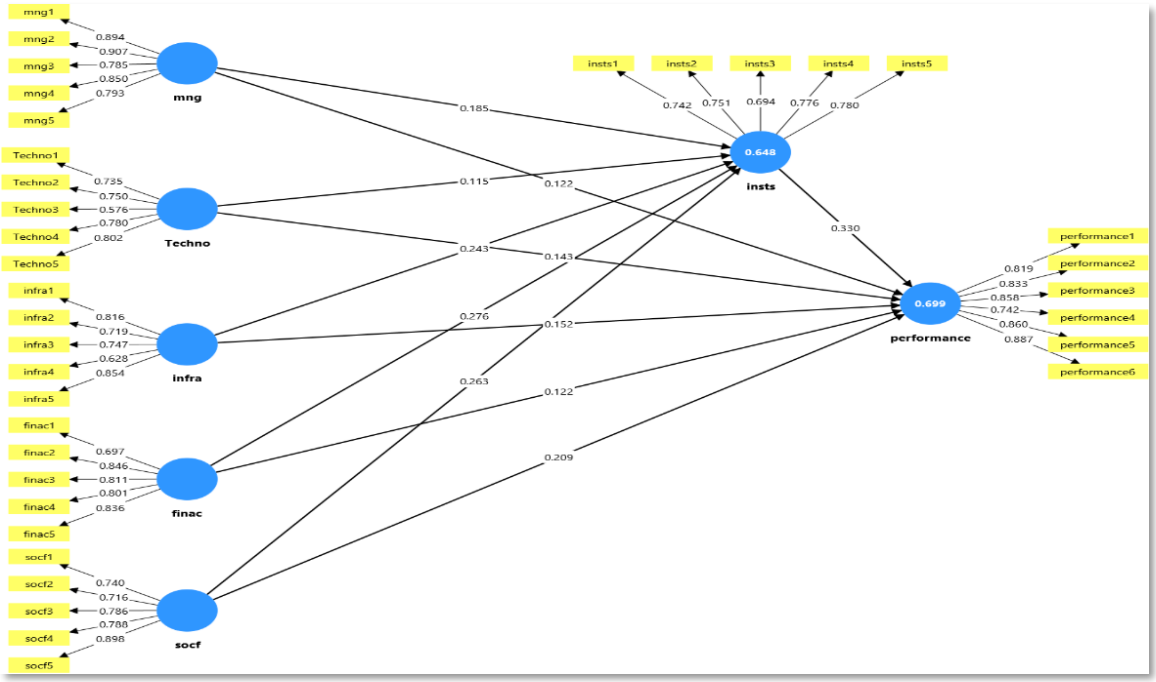

Figure 2. Graphical output of indicator loading
Source: Data processed, 2025

Nonetheless, indicators with extremely low loadings (below 0.40) should be removed from the measurement model at all times, as they indicate that the construct explains less than 50% of the indicator's variance, thereby providing unacceptable indicator reliability (Ringle & Sarstedt, 2022). Based on this evidence, all indicators had retained them, as there was no impact on content validity.

Construct Reliability (Internal consistency). Cronbach's alpha and composite reliability were used to assess the reliability and internal consistency of each variable. Cronbach's alpha, composite reliability (rho a), and composite reliability (rho c) should all be greater than 0.7 (Chua Yan Piaw,2023).

Table 2. Cronbach's alpha, Composite Reliability, rho-a, rho-c, and AVE

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Managerial skills	0.901	0.908	0.927	0.718
Technology	0.785	0.820	0.852	0.537
Infrastructure	0.810	0.822	0.869	0.573
Finance	0.858	0.863	0.898	0.640
Social factors	0.846	0.858	0.891	0.621
Institutional support	0.807	0.821	0.865	0.561
Performance of MSEs	0.912	0.913	0.932	0.696

Source: Data processed, 2025

According to the results presented in Table 2, all Cronbach's alpha values in this study ranged from 0.785 to 0.912, all composite reliability (ρc) values were between 0.852 and 0.932, and the rho-a values ranged from 0.820 to 0.913. Therefore, the values in this study were above the recommended values, indicating that each variable considered in this study had acceptable internal consistency and was therefore reliable in measuring what it was designed to measure.

Convergent Validity. Convergent validity is a critical indicator of the quality of a measurement model, particularly when it consists of a series of question statements. It demonstrates that the participants interpret the question-statements as intended by the researchers (Amora, 2021). Convergent validity is used to assess the quality of statements under each indicator using the Average Variance Extracted (AVE), which reflects the proportion of variance explained by a construct in relation to the total variance

of its indicators (Kock, 2020a). According to Henseler et al. (2009a), the AVE should exceed 0.50 to indicate good convergent validity.

In this study, all AVE values shown in Table 2 exceeded the minimum threshold of 0.50, confirming that the constructs exhibited positive correlations with their respective indicators. Therefore, the study supports the criteria of convergent validity.

Discriminant Validity. To determine how effectively the tested constructs differentiated from the other components, discriminant validity analysis was performed. Three tests should be conducted to evaluate discriminant validity through Cross Loading, Criteria Fornell & Larcker and Heterotrait Monotrait Ratio (HTMT) (Hair et al., 2021b).

Cross Loading. According to Chin's (1998) criterion, the observed variables in the original constructs should have higher factorial loads than the rest in the model to ensure discriminant validity. The loading value of the construct should be greater than all the loadings in the other constructs (Hair, Sarstedt, Ringle, et al., 2012a).

Table 3. Discriminant Validity-Cross Loading

Categories	Techno	Finac	Infra	Insts	Mng	Performance	Socf
Techno1	0.735	0.413	0.336	0.336	0.199	0.441	0.207
Techno2	0.750	0.326	0.367	0.322	0.176	0.338	0.171
Techno3	0.576	0.323	0.307	0.281	0.076	0.263	0.147
Techno4	0.780	0.499	0.418	0.532	0.303	0.552	0.382
Techno5	0.802	0.333	0.363	0.340	0.160	0.339	0.196
finac1	0.395	0.697	0.488	0.476	0.212	0.446	0.258
finac2	0.479	0.846	0.494	0.518	0.221	0.511	0.309
finac3	0.440	0.811	0.505	0.561	0.353	0.581	0.425
finac4	0.403	0.801	0.524	0.606	0.361	0.549	0.460
finac5	0.418	0.836	0.497	0.496	0.203	0.489	0.274
infra1	0.431	0.505	0.816	0.524	0.168	0.510	0.318
infra2	0.344	0.354	0.719	0.422	0.267	0.388	0.288
infra3	0.399	0.469	0.747	0.510	0.351	0.480	0.345
infra4	0.247	0.450	0.628	0.424	0.266	0.509	0.455
infra5	0.432	0.567	0.854	0.590	0.229	0.576	0.389
insts1	0.442	0.413	0.465	0.742	0.268	0.439	0.279
insts2	0.373	0.509	0.489	0.751	0.331	0.425	0.284
insts3	0.301	0.378	0.427	0.694	0.454	0.615	0.492
insts4	0.348	0.527	0.418	0.776	0.319	0.467	0.471
insts5	0.458	0.629	0.625	0.780	0.386	0.817	0.615
mng1	0.240	0.283	0.272	0.371	0.894	0.421	0.244
mng2	0.266	0.321	0.339	0.460	0.907	0.420	0.289
mng3	0.159	0.291	0.226	0.413	0.785	0.378	0.306
mng4	0.221	0.317	0.319	0.418	0.850	0.458	0.292
mng5	0.265	0.237	0.247	0.338	0.793	0.327	0.204
performance1	0.461	0.579	0.537	0.599	0.387	0.819	0.427
performance2	0.441	0.484	0.477	0.645	0.412	0.833	0.636
performance3	0.498	0.531	0.551	0.616	0.396	0.858	0.543
performance4	0.404	0.560	0.543	0.637	0.388	0.742	0.416
performance5	0.483	0.605	0.633	0.706	0.392	0.860	0.507
performance6	0.488	0.486	0.541	0.636	0.413	0.887	0.552
socf1	0.249	0.253	0.284	0.374	0.211	0.437	0.740
socf2	0.194	0.333	0.282	0.384	0.113	0.424	0.716
socf3	0.262	0.362	0.376	0.482	0.287	0.472	0.786
socf4	0.289	0.433	0.505	0.574	0.320	0.527	0.788
socf5	0.277	0.331	0.386	0.498	0.287	0.552	0.898

Source: Data processed, 2025

The results in Table 3 showed that the cross-loading value for an item under its parent construct was greater than the loading value for another construct. Therefore, it provides evidence of validity for the measurement model construct.

Fornell and Larcker Criterion. The Fornell-Larcker criterion is important for accurately detecting discriminant validity issues in empirical applications (Hair et al., 2021). This criterion is conducted by

comparing the value of the AVE square root with the construct correlation value that displays the highest value in any column or row relative to the highest correlation value of any other construct. The Fornell-Larcker criterion is applied (Hair et al, 2017). In other words, the bold diagonal values in Table 4, should be higher than the corresponding vertical and horizontal values; the analysis's results led to the Fornell-Larcker criterion validation of the discriminant validity test in the measurement model.

Table 4. Fornell- Larcker Criterion

Categories	Techno	Finac	Infra	Insts	Mng	Performance	Socf
Techno	**0.733**						
finac	0.534	**0.800**					
infra	0.495	0.628	**0.757**				
insts	0.518	0.669	0.660	**0.749**			
mng	0.271	0.345	0.334	0.475	**0.847**		
performance	0.555	0.649	0.657	0.468	0.477	**0.834**	
socf	0.325	0.440	0.476	0.596	0.318	0.617	**0.788**

Source: Data processed, 2025

Heterotrait-Monotrait Ratio (HTMT). The heterotrait-monotrait (HTMT) ratio is proposed as a means to overcome the limitations of the Fornell and Larcker criterion (Roemer et al., 2021). The HTMT ratio is the average correlation value of the items across constructs divided by the (geometric) mean of the average correlations for the items measuring the same construct (Ringle & Sarstedt, 2021). Discriminant validity evaluation using the HTMT ratio requires a value of 0.90 or less as a threshold (Donkor et al., 2021). Moreover, the conservative threshold value is 0.85 as recommended for constructs that are conceptually more distinct (Dijkstra & Henseler, 2015b).

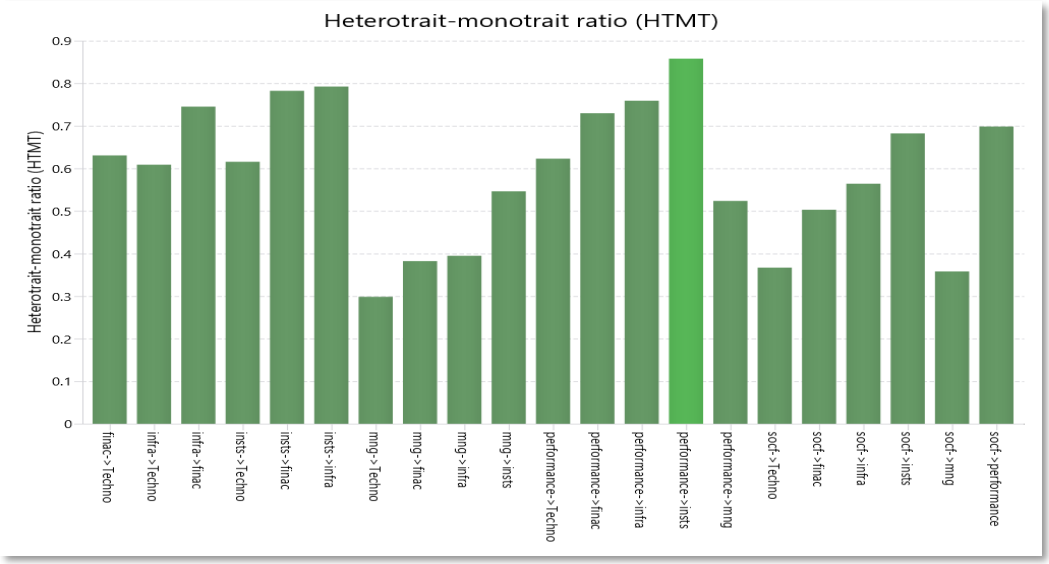

Figure 3. Charts of HTMT-Criterion
Source: Data processed, 2025

According to the bar graph titled Heterotrait-Monotrait Ratio (HTMT) in Figure 3, all constructs included in the study demonstrate strong discriminant validity, as each HTMT value remains below the critical threshold of 0.90 or 0.85. As a result, the measurement model's discriminating validity met all the requirements. The green colour, as shown in Figure 3, denotes the fulfilment of the HTMT criterion requirement. Therefore, the results of the validity and reliability assessment indicated that there were no validity or reliability problems in this study, and that the data were both valid and reliable for further analysis.

4.2. Structural Model Assessment

After the measurement model was checked, the conceptual model was developed to address the direct, indirect and total effects in the structural model. Using the PLS Bootstrapping method, collinearity tests, effect sizes (f2), coefficients of determination (R^2), and path coefficients are conducted.

The Collinearity Test

According to Mooi & Sarstedt (2016), it is necessary to examine any possible collinearity problems in the structural model regressions. The variance inflation factor (VIF) values are derived from the construct scores of the predictor constructs in each regression in the structural model (Kyriazos & Poga, 2023). According to Ringle & Sarstedt (2022), VIF values above 5 indicate a probable collinearity issue among predictor constructs.

Table 5. Inner values of the VIF

Categories	Techno	finac	infra	insts	mng performance
Techno				1.497	1.534
finac				1.944	2.160
infra				1.906	2.074
insts					2.844
Mng performance				1.201	1.298
Socf				1.388	1.585

Source: Data processed, 2025

Based on the report in Table 5, the VIF of this study in the inner model was below 5; therefore, the study had no collinearity issues.

Coefficient of Determination (R^2).

The explanatory power of the model is indicated by the coefficient of determination (R^2), which shows the variance explained in each endogenous construct (Esearch & Koppius, 2011).

Table 6. R-square value

Categories	R-square	R-square adjusted
Institutional support	0.648	0.640
MSEs performance	0.699	0.690

Source: Data processed, 2025

Table 6 revealed that the R^2 values for MSE performance and institutional support were concurrently 0.699 and 0.648, as determined by the PLS algorithm. This indicates that the model explains 69.9% of the variance in MSEs' performance and 64.8% of the variance in institutional support, with the remaining variance attributable to factors not included in the study.

Models' effect size (f2)

In addition to the explanatory power of the model, a detailed examination of the model's effect size (f^2) is performed, which indicates the extent to which an external latent variable influences the R^2 value of an endogenous latent variable. In short, effect size measures the magnitude or strength of the relationship between latent variables. The effect size (f2), as described by Cohen (1998), indicates that f2 values of 0.02 are small, 0.15 is moderate, and those above 0.35 are considered strong.

Table 7. Effect size of the model

Categories	Techno	Finac	Infra	Mng	Socf	Insts	Performance
Techno						0.025	0.045
finac						0.111	0.023
infra						0.088	0.037
insts							0.127
Mng performance						0.081	0.038
socf						0.142	0.092

Source: Data processed, 2025

Based on Table 7, each external latent variable contributes a small 0.023 to moderate 0.142 effects for the endogenous latent variable. If the independent variable, social factor, were removed from the model, it would have a 14.2% influence on MSEs' performance and a 9.2% influence on the R-square value of

institutional support. In the same way, other exogenous variables influence the R^2 value of an endogenous variable.

Hypothesis Testing

Direct Effect. Direct effect refers to the analysis of the impact of independent variables on dependent variables without the influence of mediators.

Table 8. Path coefficients for direct effects

Categories	β	M	SD	T	P
finac -> insts	0.274	0.278	0.086	3.198	0.001
finac -> performance	0.117	0.117	0.079	1.486	0.137
infra -> insts	0.243	0.237	0.073	3.310	0.001
infra -> performance	0.147	0.141	0.057	2.570	0.010
insts -> performance	0.348	0.345	0.096	3.631	0.000
mng -> insts	0.186	0.182	0.059	3.135	0.002
mng -> performance	0.118	0.119	0.047	2.500	0.012
socf -> insts	0.270	0.273	0.065	4.129	0.000
socf -> performance	0.203	0.207	0.073	2.783	0.005
Techno -> insts	0.113	0.115	0.046	2.450	0.014
Techno -> performance	0.142	0.143	0.055	2.606	0.009

Source: Data processed, 2025

Table 8 presents the direct path coefficients, including standardised estimates (β), T-values, and p-values, assessing the influence of independent and mediating variables on the dependent variable. The effect of finance on institutional support was positive and statistically significant (β = 0.274, t = 3.198, p < 0.001). This means that a 1% increase in finance enhances institutional support by 27.4%. However, the direct effect of finance on performance was positive but not statistically significant (β = 0.117, t = 1.486, p = 0.137), as the t-value was less than 1.96 and the p-value was greater than 0.05. Thus, the null hypothesis for this direct relationship could not be rejected.

Similarly, infrastructure had a significant positive effect on institutional support (β = 0.243, t = 3.310, p < 0.001) and also showed a positive and significant effect on performance (β = 0.147, t = 2.570, p = 0.010). This implies that improving infrastructure by 1% increases institutional support by 24.3% and performance by 14.7%.

The effect of institutional support on performance was found to be positive and statistically significant (β = 0.348, t = 3.631, p < 0.001). This suggests that a 1% increase in institutional support leads to a 34.8% improvement in performance.

The results further indicate that managerial skills have a significant impact on institutional support (β = 0.186, t = 3.135, p = 0.002) and performance (β = 0.118, t = 2.500, p = 0.012). This suggests that strengthening managerial skills improves both institutional support and MSE performance.

Likewise, social factors significantly influenced both institutional support (β = 0.270, t = 4.129, p < 0.001) and performance (β = 0.203, t = 2.783, p = 0.005). This implies that a 1% increase in social support enhances institutional support by 27% and performance by 20.3%.

Finally, technology had a positive and significant effect on institutional support (β = 0.113, t = 2.450, p = 0.014) and also on performance (β = 0.142, t = 2.606, p = 0.009). This indicates that the adoption of technology contributes to strengthening institutional support and improving the performance of MSEs.

Overall, the findings suggest that, except for the direct relationship between finance and performance, all other hypothesised paths were statistically significant.

Indirect Effect (Mediation Analysis). This was based on the results of smart PLS4-SEM to determine whether institutional support mediates the relationship between each determinant factor and MSE performance. The mediation results presented in the Table 9 show that institutional support significantly mediates the relationship between technology, finance, infrastructure, managerial skills, social factors, and the performance of MSEs.

The indirect effect of technology on performance through institutional support was positive and statistically significant (β = 0.039, t = 2.023, p = 0.043). Since the t-value was greater than 1.96 and the

p-value was less than 0.05, the null hypothesis was rejected. This implies that a 1% improvement in technology increases performance by 3.9% through the mediating role of institutional support.

Table 9. Mediation Analysis

Categories	β	M	SD	T	P
Techno -> insts -> performance	0.039	0.039	0.019	2.023	0.043
finac -> insts -> performance	0.095	0.094	0.037	2.547	0.011
infra -> insts -> performance	0.085	0.083	0.039	2.188	0.029
mng -> insts -> performance	0.065	0.062	0.026	2.540	0.011
socf -> insts -> performance	0.094	0.095	0.037	2.508	0.012

Source: Data processed, 2025

Similarly, the indirect effect of finance on performance through institutional support was positive and statistically significant (β = 0.095, t = 2.547, p = 0.011). This suggests that a 1% increase in access to finance results in a 9.5% improvement in performance when facilitated by institutional support.
The effect of infrastructure on performance through institutional support was also positive and significant (β = 0.085, t = 2.188, p = 0.029). This suggests that a 1% improvement in infrastructure results in an 8.5% increase in performance via institutional support.

The indirect effect of managerial skills on performance through institutional support was significant (β = 0.065, t = 2.540, p = 0.011). This implies that strengthening managerial skills by 1% enhances performance by 6.5% when institutional support is present.

Finally, the indirect effect of social factors on performance through institutional support was positive and statistically significant (β = 0.094, t = 2.508, p = 0.012). This suggests that a 1% increase in social support leads to a 9.4% improvement in performance through institutional support.
Overall, the findings confirm that institutional support plays a significant mediating role in enhancing the performance of MSEs across all five determinants.

Total Effect. The total effect is a combination of direct and indirect effects; however, most studies have only indicated the direct effects. As evidenced in the literature, it is preferable to report total effect analysis. According to Chin (2010), the total effect is the sum of the direct effect of each variable and the indirect effect of the respective variable. Based on this, the total effects of Table 10 can be calculated as the sum of the direct effects of each independent variable and its indirect effects through institutional support.

Table 10. Total effects

Categories	β	M	SD	T	P
finac -> insts	0.274	0.278	0.086	3.198	0.001
finac -> performance	0.212	0.212	0.080	2.648	0.008
infra -> insts	0.243	0.237	0.073	3.310	0.001
infra -> performance	0.231	0.225	0.063	3.648	0.000
insts -> performance	0.348	0.345	0.096	3.631	0.000
mng -> insts	0.186	0.182	0.059	3.135	0.002
mng -> performance	0.183	0.181	0.049	3.758	0.000
socf -> insts	0.270	0.273	0.065	4.129	0.000
socf -> performance	0.297	0.303	0.072	4.138	0.000
Techno -> insts	0.113	0.115	0.046	2.450	0.014
Techno -> performance	0.182	0.182	0.053	3.449	0.001

Source: Data processed, 2025

The total effect results presented in the Table 10 indicate the overall influence of finance, infrastructure, managerial skills, social factors, and technology on institutional support and the performance of MSEs. The effect of finance on institutional support was positive and significant (β = 0.274, t = 3.198, p = 0.001), indicating that a 1% increase in finance improves institutional support by 27.4%. Likewise, the total effect of finance on performance was also positive and statistically significant (β = 0.212, t = 2.648, p = 0.008). This suggests that a 1% increase in access to finance enhances performance by 21.2%, considering both direct and indirect effects through institutional support.

The results further show that infrastructure has a significant influence on institutional support (β = 0.243, t = 3.310, p = 0.001) and has a positive total effect on performance (β = 0.231, t = 3.648, p

= 0.000). This implies that a 1% improvement in infrastructure increases institutional support by 24.3% and performance by 23.1%.

The effect of institutional support on performance remained positive and significant (β = 0.348, t = 3.631, p < 0.001), confirming that stronger institutional support directly contributes to better performance outcomes for MSEs.

Similarly, managerial skills had a significant total effect on institutional support (β = 0.186, t = 3.135, p = 0.002) and on performance (β = 0.183, t = 3.758, p < 0.001). This means that strengthening managerial skills improves both institutional support (by 18.6%) and performance (by 18.3%).

The total effect of social factors on institutional support was significant (β = 0.270, t = 4.129, p < 0.001), and the effect on performance was also positive and significant (β = 0.297, t = 4.138, p < 0.001). This suggests that a 1% improvement in social support results in a 27% increase in institutional support and a 29.7% increase in performance.

Finally, technology had a significant positive effect on institutional support (β = 0.113, t = 2.450, p = 0.014) and on performance (β = 0.182, t = 3.449, p = 0.001). This indicates that improvements in technology adoption enhance institutional support by 11.3% and performance by 18.2%.

Overall, the total effects results confirm that all five determinants — finance, infrastructure, managerial skills, social factors, and technology — have a positive and significant impact on the performance of MSEs, both directly and indirectly through institutional support.

4.3. Discussion

The Influence of Access to Finance on Institutional Support and MSEs' Performance

Jalali (2025) demonstrated that government and institutional support are crucial factors in transforming financial access into improved international performance for MSMEs. Tandilino, Rahman, & Yusuf (2025) also found that digital financial inclusion improves market access and operational efficiency, but its effect on MSME performance is only significant when mediated by institutional support. In other words, finance strengthens institutions first, and then contributes to performance.

The practical implication of these findings is that policies to improve financial access for MSMEs are not sufficient simply to provide capital or credit. Without strong institutional support—for example, clear regulations, mentoring, and access to formal networks—finance will not directly improve performance. Therefore, MSME development strategies must integrate financial policies with institutional strengthening. In this way, finance can serve as an effective catalyst for increasing MSME competitiveness and sustainability.

The Influence of Access to Infrastructure on Institutional Support and MSEs' Performance

A UNIDO (2025) report shows that digital connectivity projects like the Palapa Ring in Indonesia increase MSME access to digital markets, but maximum results only occur when accompanied by institutional coordination. Susanty et al. (2024) also emphasize that digital infrastructure strengthens MSMEs' relationships with supporting institutions, so its impact on performance is stronger when supported by regulatory support and training.

The practical implication of these findings is that infrastructure investment should be viewed as a long-term strategy to strengthen the MSME ecosystem. Physical and digital infrastructure not only improves operational efficiency but also strengthens institutional support, which is a crucial determinant of performance. Therefore, infrastructure development policies need to be integrated with mentoring programs, clear regulations, and access to supporting institutions. This combination can be an effective catalyst for improving the competitiveness and sustainability of MSMEs.

The Influence of Institutional Support on MSEs' Performance

Jalali (2025) emphasized that government and institutional support play a crucial role in improving the international performance of MSMEs, particularly within a stable institutional context. Susanty et al. (2024) also found that institutional support in the form of training, regulations, and access to formal networks strengthens managerial capabilities and increases MSME competitiveness in the digital era. Thus, institutional support serves as a mediator connecting resources (finance, infrastructure, technology) with improved performance.

The practical implication of these findings is that MSME development policies must prioritize institutional support. Mentoring programs, clear regulations, and access to financial institutions and formal markets will strengthen MSMEs' position within the business ecosystem. Without adequate institutional support, MSMEs' resources will not be optimally utilized to improve performance. Therefore,

MSME development strategies need to integrate institutional policies with resource provision for a more significant and sustainable impact on performance.

The Influence of Managerial and Marketing Skill on Institutional Support and MSEs' Performance

Susanty et al. (2024) emphasize that managerial skills in strategic thinking, leadership, and digital literacy play a crucial role in enhancing the competitiveness of MSMEs in the digital era. They found that managers who are able to integrate technology and business strategy are more effective in strengthening institutional support and improving performance. Furthermore, Jalali (2025) also highlights that institutional support is more optimal when supported by strong managerial capacity, enabling MSMEs to capitalize on international market opportunities.

The practical implication of these findings is that strengthening managerial capacity should be a priority in MSME development strategies. Management, leadership, and digital literacy training programs will help MSMEs not only manage resources more efficiently but also strengthen relationships with supporting institutions. Thus, enhanced managerial skills serve as a catalyst that strengthens the MSME ecosystem and ensures that institutional support can translate into sustainable performance improvements.

The Influence of Social Factors on Institutional Support and MSEs' Performance

Malesu & Syrovátka (2025) found that networking and brand reputation are critical factors in improving MSME performance, especially in a competitive market context. They emphasized that social capital strengthens relationships with supporting institutions and opens up opportunities for collaboration. Furthermore, Susanty et al. (2024) also highlighted that social support through business communities and MSME associations strengthens managerial capacity and enhances competitiveness.

The practical implication of these findings is that strengthening social factors must be an integral part of MSME development strategies. Programs that encourage networking, community collaboration, and strengthening brand reputation will strengthen institutional support while improving performance. By building trust and solid social relationships, MSMEs can gain greater legitimacy, access to broader markets, and stronger institutional support. This makes social capital a key pillar of MSME sustainability in a competitive era.

The Influence of Technology on Institutional Support and MSEs' Performance

Tandilino, Rahman, & Yusuf (2025) found that digital financial inclusion and technology adoption strengthen institutional support while improving MSME performance through operational efficiency and broader market access. Susanty et al. (2024) also emphasized that integrating technology with managerial skills strengthens MSME competitiveness in the digital era. Thus, technology serves a dual function: strengthening institutional support while directly improving MSME performance.

The practical implication of these findings is that technology adoption must be a priority in MSME development strategies. Digitalization programs, technology-based financial system integration, and digital literacy training will strengthen institutional support and improve MSME performance. By leveraging technology, MSMEs can expand their markets, increase efficiency, and gain greater legitimacy from supporting institutions. This makes technology a key pillar in building a sustainable and competitive MSME ecosystem.

5. CONCLUSION

The findings of this study confirm that the measurement and structural models employed were valid, reliable, and free from collinearity issues, making them suitable for further analysis. The measurement model demonstrated strong indicator reliability, internal consistency, and both convergent and discriminant validity, ensuring that the constructs were measured accurately and reliably. The structural model revealed that institutional support significantly mediates the relationship between finance, infrastructure, managerial skills, social factors, and technology on the performance of MSEs.

While finance did not directly affect performance, its influence was realised through institutional support. Overall, the model explained 69.9% of the variance in MSE performance and 64.8% of the variance in institutional support, demonstrating strong explanatory power. The total effect analysis revealed that all five determinants make a positive and significant contribution to MSE performance.

These results underscore the crucial role of institutional support in strengthening the direct and indirect effects of key determinants on MSE performance. It is recommended that policymakers and

MSE stakeholders enhance institutional support mechanisms while simultaneously improving access to finance, infrastructure, managerial skills, social factors, and technology adoption to maximise the performance of micro and small enterprises.

5.1. Recommendations

This study examined factors affecting the performance of micro and small enterprises (MSEs) in Samara-Logia city Administration, Afar Region, Ethiopia, focusing on managerial skills, access to finance, technological factors, infrastructural factors, and social factors, with institutional support as a mediating variable. The findings revealed that institutional support plays a crucial role in enhancing the impact of these determinants on the performance of MSEs. Based on the results and conclusions, the following recommendations are forwarded:

- Government offices, NGOs, and other support agencies should expand institutional support services such as advisory services, incubation centres, and technical assistance that help MSEs access finance, adopt technology, and improve their management practices.
- Entrepreneurship training programs should be developed in collaboration with educational institutions and industry experts to ensure their effectiveness and relevance. Workshops and mentoring sessions focusing on business planning, record-keeping, leadership, and innovation will directly enhance managerial skills and, through institutional support, improve overall performance.
- Since direct access to finance did not significantly influence performance without institutional support, financial institutions should design credit schemes tied to institutional programs. For example, loans may be bundled with training, monitoring, and technical assistance to ensure proper utilisation and repayment.
- Investment in infrastructure, such as reliable electricity, water, and transportation, should be complemented by institutional coordination. This ensures that improved infrastructure is accessible to MSEs and effectively utilised to boost productivity.
- Digital literacy and technology adoption programs should be implemented through institutional channels, such as MSE development offices, training centres, and cooperative associations. These institutions can provide affordable access to digital tools, platforms, and capacity-building.
- Institutions should facilitate networking events, business linkages, and cooperative arrangements among MSEs. This will strengthen social capital, enabling small businesses to access markets, share resources, and collectively improve performance.

5.2. Limitations and Suggestions for Further Research

This study was limited to selected determinant factors of MSE performance and may not have captured all potential influencing factors, such as personality traits, cultural dynamics, and external macroeconomic conditions. In addition, performance measures relied on self-reported data, which may be subject to exaggeration or bias. Investigate additional determinants of MSE performance, including entrepreneurial orientation, innovation capacity, and market dynamics. Examine the role of institutional support in various contexts and across broader regions, as challenges facing MSEs vary significantly across districts and regions. Use mixed-method or longitudinal designs to better capture the dynamics of performance over time and address the limitations of self-reported measures

Abbreviation

MSEs – Micro Small Enterprises
NGOs – Non-Governmental Organizations
VIF – Variance Inflation Factor
PLS – Partial Least Square
OECD – Organization for Economic Co-operation and Development
ILO – International Labor Organization
GDP – Gross Domestic Product
AVE – Average variance extracted

Author Contribution

Authors all equally contributed in conductiong the research and writing the manuscripts. AB responsible for making the revisions.

Author Information
Abdu Kamil (AK) is a lecturer at Department of management, College of Business and Economic, Samara University, Russia. His research interest is in management. His ORCID is https://orcid.org/0000-0002-9632-9235.
Senapathy Marisennayya (SM) is an Associate Professor in the Department of Rural Development and Agricultural Extension at the College of Agriculture, Wolaita Sodo University, Ethiopia. His ORCID is https://orcid.org/0000-0002-8371-3035.

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